Health Services
Advisory
Committee

The lifting of patients in the health services

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Introduction

1 A working party was set up at the request of the Health Services Advisory Committee (HSAC) with the following terms of reference:

To carry out a review of problems especially associated with the lifting of patients, and taking account of relevant work available:

- (a) to identify health service working groups particularly at risk;
- (b) to review provision of training syllabuses relating to manual lifting and the use of lifting aids and to comment on their content and their coverage of the risk groups;
- (c) to enquire how far effective training reaches the risk groups;
- (d) to identify causes of difficulty in working in accordance with the principles learned in training;
- (e) to examine the place of mechanical aids and related work systems;
- (f) to make such recommendations as seem appropriate to remedy identified defects in the present system;

('Patient' to be defined as including any human body needing to be lifted by persons employed within the health services).

2 In discussing the terms of reference the working party found it impossible to separate lifting from other aspects of patient handling, and therefore addressed themselves to the problem of patient lifting and handling. This was defined as: "any activity in which patients are lifted, carried, supported, pushed or pulled".

3 For some groups in the health services handling of objects can be a major cause of back pain. Since this working group was convened the Health and Safety Commission (HSC) has produced a consultative document entitled *Proposals for Health and Safety (Manual Handling of Loads) Regulations and Guidance:* this may lead to Regulations and guidance on manual handling in general. Consideration could then be given to the publication of specific guidance on handling of objects within the health services.

4 In coming to its conclusions the group considered existing published material (Appendix 1), much new information produced by members in the course of enquiries and evidence from three experts in the field (Appendix 2).
Organisations approached for their views are listed at Appendix 3.

5 HSAC has produced this guidance in order to help employers, employees and their representatives, managers and designers to reduce the number of patient handling accidents and thus lessen the number of immediate injuries and possible longterm ill effects. It draws attention to the dangers in patient handling and highlights ways in which the risk of injury can be minimised by forethought, planning, consultation and appropriate action.

6 While much of this report must necessarily deal with the NHS it is clear that the private sector of the health services is equally affected. Our recommendations should be seen as also applying to the private sector.

Background to the problem

7 Handling of patients is an activity common to a number of occupations within the health services, both in hospitals and in the community. Back pain related to patient handling is a common problem for nurses, nursing assistants, porters, ambulance crews, physiotherapists, occupational therapists, radiographers and other staff who are all at varying degrees of risk. Total numbers in these categories in Great Britain in 1980 were of the order of 590 000 including about 520 000 nurses. An estimated 480 000 of the total were female. Their lifting tasks are as heavy as those involved in the hardest manual labour, and the circumstances of lifting are sometimes much worse, in that they are frequently unpredictable and the load to be lifted is another human being in need of care and attention, instead of an inanimate object.

8 Most of the surveys of back pain amongst health workers have been concerned with nurses as they are the largest group at risk. One such survey* in a hospital occupational health service indicated that in the course of one hour's work, two nurses in a geriatric hospital had lifted the equivalent of two and a half tons in attending to patients' needs.

9 An estimate, based on a sample of 3660 nurses** (qualified, learners and auxiliaries) in four health districts, indicated that one in six nurses each year is likely to suffer back pain as a result of patient

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**Avoiding low back injury among nurses* - Royal College of Nursing of the United Kingdom 1979.
**Stubbs D A, Rivers P M, Hudson M P, Worringham C J, *Back Pain Research,* Nursing Times, May 14 1981, 857-858, and Stubbs D A, Buckle P W, Hudson M P, Rivers P M, Worringham C J, *Back pain in the nursing profession, Part 1. Epidemiology and Pilot Methodology,* Ergonomics (1983) 26 755-765

handling. Figures from the same survey also indicated that nurses have nearly twice as much sick leave due to back pain as the rest of the working population and that an estimated 764 000 working days are lost to the NHS each year from back pain amongst nurses.

10 An analysis of industrial injury claims (forms BI.76) received by HSE during April to June 1982 from health services employers showed that out of 4810 notifications received, 975 were for injuries attributable to patient lifting (Appendix 4).

11 Back pain is a major problem in the health services, not only because of the considerable suffering and sickness absence caused, but also because of the loss of trained people who leave because of permanent disability. This is obviously very costly to the health services.

12 The current numbers of back injuries from patient handling are not an inevitable part of work in the NHS and a significant reduction in such accidents can be achieved if more attention and resources are devoted to prevention. The present injury toll is unacceptably high in both human and economic terms.

Why do handling accidents happen?

13 Most handling accidents have identifiable causes and are preventable. The reasons for the continuing high rate of accidents and injuries from patient handling are similar to those which explain other load handling accidents, i.e.:

(a) lack of awareness of the hazard, its causes and its remedies;
(b) an unsuitable work environment for safe lifting;
(c) lack of specified safe procedures;
(d) inadequate staffing levels;
(e) inadequate provision and use of mechanical aids;
(f) inadequate training;
(g) failure of staff to follow safe procedures.

Steps to reduce the problem

Identifying hazards and their causes

14 Inadequate data are one reason for a lack of awareness of the problem, therefore every employing authority needs to have information which will identify the numbers, causes and consequences of injuries caused by patient handling. It should include:

(a) the numbers and incidence rate of injuries;
(b) the type of injuries;
(c) the handling methods employed;
(d) the numbers of staff involved;
(e) the age and training history of the injured parties;
(f) the location and time of the accident;
(g) the cause of the accident;
(h) the related costs of the accident e.g. time lost.

15 A suitable accident book should be available in each ward or other workplace so as to ensure the prompt recording of any accident. An accident form should be completed. The data obtained should be used by safety committees, managers and occupational health departments to identify patient handling risks. Accidents should be promptly investigated and where necessary reports prepared by staff representatives, managers and the occupational health service.

16 Administrative arrangements for the information system will vary but they must ensure statutory requirements are met, for example as detailed in the Notification of Accidents and Dangerous Occurrences Regulations 1980, the Social Security Regulations 1979 and the Safety Representatives and Safety Committees Regulations 1977. The latter allow safety representatives to carry out inspections of any workplace where there has been a notifiable accident or dangerous occurrence.

Design and maintenance of a safe working environment

17 Some hospitals, both old and new, have inadequate space and a poor layout for safe handling of patients e.g. mechanical lifting aids which cannot be used because bathroom doors are too narrow or WCs are wrongly positioned.

18 In the design of new and upgraded facilities architects, designers and those responsible for planning policy should be asked to take account of the need for adequate space and layout for the safe handling of patients.

Safety policy - specified safe procedures for patient lifting

19 Section 2(1) of the Health and Safety at Work etc Act 1974 (HSW Act) requires all employers to ensure the health and safety at work of their employees so far as is reasonably practicable. To do this the employer needs to assess the potential risks to his employees that can arise from their activities and to specify what measures are to be taken to counter these risks. Section 2(3) of the Act requires the employer to produce in writing his policy in this respect. The safety policy of each employer in the health services should include a section on patient lifting and handling which should reflect the guidance given in this document.

20 To ensure that these duties are discharged it is necessary for managers and supervisors to be trained in the assessment of risk and the design and modification of systems of work to eliminate or reduce these risks. Patient handling tasks should be regularly reviewed with the object of identifying and removing hazards.

21 Safe procedures should be specified and should take account of the patient being handled, particularly height, weight, therapeutic and rehabilitation needs and degree of ability to assist in the particular lifting task. The procedure must be known to all involved. The following, taken from a draft code of practice prepared by the RCN Advisory Panel on Back Pain in Nurses, serves as an example of a system of work involving a specific patient:"This patient weighs 12 stone. She is liable to become confused, is unreliable, and is unsteady on her feet. She must be moved in bed by two nurses using the shoulder lift. All other transfers will require the use of mechanical aids".

Adequate staffing

22 Employees should not be expected to handle patients in circumstances likely to cause themselves injury. It follows that there should be sufficient staff available to handle patients safely. Such factors as the location, distribution, level of training and supervision of staff are relevant in the avoidance of handling accidents.

23 It is obvious that the skill, experience and training of the staff are important factors to take into account when determining staffing levels. Investment in training can enhance the skill and experience of staff and thereby reduce the numbers lost through injuries.

24 Staffing levels/ratios will vary depending on local circumstances. Procedures including consultation with appropriate safety representatives should, however, be developed to enable employers readily to identify shortages and take remedial action so as to ensure the health and safety of their employees so far as is reasonably practicable.

Mechanical aids to handling

25 Whereas mechanical aids cannot be used on all occasions, recent research has shown that despite the availability of a wide range of aids they are seriously underused in most hospitals. Amongst the factors causing this are:

(a) lack of training on use of hoists and too much reliance on the lecture, film, visual aid approach in the training that is given;
(b) lack of encouragement from managers and supervisors stemming from their own lack of experience in hoist use;
(c) a disinclination of some staff to use hoists;
(d) lack of written instructions with the hoist which might serve as a reminder;
(e) poor maintenance, leading to a distrust of the aids;
(f) environmental factors: hoists which cannot be manoeuvred due to space restrictions around beds, baths, WCs. This may follow from a wrong decision on the type of hoist to buy, for example the purchasing department not knowing that certain models had been found unsuitable in certain locations.

26 As a first step to overcoming these problems in each appropriate unit an existing member of staff should be designated as responsible for mechanical aids co-ordination. Their duties would be to:

(a) keep an inventory of aids and encourage their effective deployment;
(b) be involved in the choice of equipment;
(c) act as an informed source on aids available. This should include liaison with an Aids Centre (Appendix 5);
(d) ensure that mechanical lifting methods are adequately covered in local training programmes by liaising with the training officer;
(e) ensure that all hoists are regularly maintained;
(f) channel suggestions for improvements to the equipment suppliers and manufacturers.

Training

27 Handling patients is often considered to be a simple, 'natural' task that is an extension of caring in the family, for which parents and others receive no training. In fact, the safe handling of very heavy human loads which are flexible, precious, usually unwell, and sometimes resisting, in confined spaces, and hampered by clothing, is a highly skilled job. The skills of turning the patient's weight to the handlers' advantage, of applying principles of balance, momentum and force to the task, whilst retaining the confidence of the patient, require regular training and practice. This has not been fully acknowledged and goes a long way to explaining why many badly trained patient handlers injure themselves every year. Lifting in a correct way also minimises risk and discomfort to patients.

28 Training falls into the following two broad categories:

(a) learning to assess tasks which involve patient handling:
there will be occasions when for rehabilitation purposes some manual lifting will be necessary, but the aim should be to minimise this. A careful appraisal might occasionally reveal that there is no need to lift the patient at all. Alternatively, it

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might become apparent that some adjustment to the environment would simplify the task. Managers, supervisors and staff themselves must receive training which will heighten their awareness of the various solutions to any handling problem; and

(b) training in lifting:
   (i) correct use of mechanical aids
   (ii) an understanding of the mechanics of lifting
   (iii) recommended manual lifts and an appreciation of why they are recommended and why others are discouraged.

29 Training programmes and work systems should take account of the full range of hoists available. These may not all be present in a health authority but would be at an Aids Centre. Liaison with Aids Centres by training staff and those responsible for mechanical aids co-ordination should therefore occur.

30 It is important that this training is not confined to the lecture room but involves practice initially with colleagues and with mechanical aids. Any training programme must be followed up by positive encouragement at the workplace to use the techniques taught. There is a need to create awareness of the problems and the range of solutions available, to change attitudes and to ensure adequate induction and refresher training for all staff. This is particularly important for management and supervisory staff.

31 Authorities should ensure that all new staff involved in patient handling receive training, and that over a period, all existing staff also receive fresh training based on these principles. The needs of all staff for refresher training should be assessed; for staff who are required to lift patients only occasionally it is recommended refresher training should occur at not less than two year intervals.

32 If the training initiative is to succeed it is recommended that each employing authority identifies one person as responsible for co-ordinating all education and training in patient handling. In addition in each appropriate unit there should be an individual with responsibility for ensuring its implementation locally.

33 The duties of these training co-ordinators would be:

(a) to identify all groups involved in handling patients;
(b) to ensure that all employees in these groups receive adequate training in handling patients;
(c) to liaise with management in an attempt to ensure that there are no obstacles to the successful application of the training programme;
(d) to ensure that the different techniques and experience of all groups, e.g. nurses, ambulance staff, physiotherapists, occupational therapists and porters etc are shared.

Monitoring

34 An adequate monitoring system will be essential for evaluation purposes and to ensure that all staff are in practice applying the correct procedures. The occupational health service should play an active role here. Safety representatives of the appropriate groups of staff should also be encouraged to participate in ensuring that these recommendations are implemented.

Summary of recommendations

1 Accident reporting procedures should be thoroughly re-appraised with a view to standardisation. (Paragraphs 14-16)

2 The working environment should allow patients to be handled safely and the principles learned in training to be applied in practice. (Paragraphs 17-18)

3 Each District Health Authority and other employer should include in its safety policy statements a section on patient handling which should reflect the advice given in this guidance. (Paragraph 19)

4 Safe procedures for the handling of patients should be defined and implemented at the appropriate level. (Paragraph 21)

5 Suitable mechanical aids for patient handling should be provided and their use encouraged and an existing member of staff within each appropriate unit should be designated as responsible for mechanical aids co-ordination. (Paragraph 26)

6 A positive policy on education and training in the handling of patients should be adopted and implemented by each employing authority and one person should be identified as responsible for co-ordinating all education and training in patient handling. (Paragraph 32)

7 Occupational health services should be encouraged to play an active role in the implementation of these recommendations. (Paragraph 34)

8 Health and safety representatives should be encouraged to participate in the implementation of these recommendations. (Paragraph 34)

Appendix 1

Material considered by the working party.

1 Aitken R C B; Bell F; Fennell M J; Hill I M; Lambert L C, (1981); *Mobile hoists: an investigation into the suitability of patient lifters used in hospitals.*

2 DHSS: Review Group on the National Training Council and National Staff Committees, *(The Bland Report)* (1981).

3 Health and Safety Commission (1982) consultative document: *Proposals for Health and Safety (Manual Handling of Loads) Regulations and Guidance.* ISBN 0 11 883461 4

4 Health and Safety Executive (1982): *Guidelines for occupational health services.* ISBN 0 11 883625 0.

5 HMSO, Statutory Instrument 1980 No. 804 Health and Safety. *The Notification of Accidents and Dangerous Occurrences Regulations.* ISBN 0 11 006804 1.

6 Lloyd P; Osborne C M; Tarling C; Troup D, (1981). *The handling of patients - a guide for nurse managers.* Back Pain Association in collaboration with the Royal College of Nursing. ISBN 0950 772607.

7 Ontario Hospital Association (1981). *A guide to creating back care awareness.*

8 Osborne C M; *Low back pain in nurses.* BSc dissertation, University of Surrey (1978).

9 Royal College of Nursing (1979). *Avoiding low back injury among nurses.* London: Royal College of Nursing of the United Kingdom; Report of a working party.

10 Stubbs D A; Hudson M P; Rivers P M; Worringham C J, (1980). 'Patient handling and truncal stress in nursing.' In *Prevention of back pain in nursing.* Proceedings of the Conference organised by the Nursing Practice Research Unit, Northwick Park Hospital and Clinical Research Centre, Back Pain Association and the DHSS, 26 September 1980.

11 Stubbs DA; Buckle P W; Hudson M P; Rivers P M; Worringham C J. (1983). *Back pain in the nursing profession. Part 1 - Epidemiology and pilot methodology.* (Ergonomics - (1983) 26 755-765.

12 Tarling C, (1980). *Hoists and their use.* William Heinemann Medical Books Ltd, in co-operation with the Disabled Living Foundation. ISBN 0 433 32130 X.

These do not include the numerous publications which were taken into account by individual members in their submissions noted at Appendix 2.

Appendix 2

Papers prepared by members of the working party.

1 *Back pain and lifting in the National Health Service* - Dr D M Smith.

2 (a) *Sickness absence monitoring and health education in the NHS occupational health services.*

(b) *Training of ambulance staff* - Mrs B Healey.

3 *Responses of North Oxon Sector of Oxfordshire AHA to 'Back Pain and Nursing'* - Miss J Axtell.

4 *Reporting of accidents in the NHS* - Mr M MacMillan.

5 *DHSS working group on back pain* - Dr F C Edwards.

6 *Reasons why nurses do not carry out in practice what is taught in schools of nursing* - Miss J Axtell.

7 *Investigation of lifting injuries reported to HSE* - Dr D M Smith.

8 *COHSE education survey - NHS staff who lift patients and patterns of training* - Mr M MacMillan.

9 *Sickness absence and accident statistics for nurses and their relation to lifting and handling patients* - Miss C M Osborne.

10 *Survey of training on the handling of patients in the health service* - Mr A Kerr.

11 *Survey of the ambulance service in Trent region* - Mr C Hayne.

12 *Report on the provision of training in patient handling techniques provided for and by the remedial professions* - Mr C Hayne.

13 *Proposed code of practice for nurses on handling patients* - Mr P V Lloyd (Royal College of Nursing Advisory Panel on Back Pain in Nurses).

14 *GMWU survey of back pain in the National Health Service* - Mr D Gee.

15 *Survey of Regional Health Authorities on training given in patient lifting to staff other than nurses* - Working Group Secretariat.

Expert evidence submitted by:

Dr Frank Bell, Rehabilitation Studies Unit, University of Edinburgh.

Dr David A Stubbs, Materials Handling Research Unit, University of Surrey.

Miss Christine Tarling, Aids Centre, Newcastle Upon Tyne.

The working party was also supplied with statistical information by Mr G K Brennen, DHSS.

Appendix 3

Organisations approached for their comments

The Back Pain Association

The British Association of Rheumatology and Rehabilitation

The British Orthopaedic Association

The Chartered Society of Physiotherapists

The College of Occupational Therapists

The College of Radiographers

The Disabled Living Foundation

The Ergonomics Society

The Health Education Council

The Royal College of Physicians - Faculty of Occupational Medicine

The Society of Occupational Medicine

The Society of Radiographers

The Society of Remedial Gymnasts

Appendix 4

Reported accidents involving lifting of patients; taken from B176 forms received by HSE in April-June 1982.

Total number of B176 forms received (Health Services G.B.) 4810

Total number from accidents involving patient lifting 975 (20%)

Distribution by Age/Sex

Age	*Male*	*Female*	*Total*
Under 22	11	148	159 (16%)
22-35	92	262	354 (36%)
36-45	59	201	260 (27%)
46-55	31	122	153 (16%)
Over 56	18	31	49 (5%)
	211 (22%)	764 (78%)	975 (100%)

Occupation of injured persons

1	Nursing auxiliary	288	(30%)
2	Qualified nurse	264	(27%)
3	Student/pupil nurse	150	(15%)
4	Community nurse	57	(6%)
5	Ambulanceman	153	(16%)
6	Porter	28	(3%)
7	Radiographer	4	(0.4%)
8	Other	31	(3%)
		975	(100%)

Example of incidence rates based on population in England

		Number (England)	*Total population (England)*	*Incidence rate per 100000 employed*
1	Nursing auxiliary	238	106410	224
2	Qualified nurse	226	198140	114
3	Student/pupil nurse	135	75400	179
4	Community nurse	50	39640	126
5	Ambulanceman	150	15140	990
6	Porter	27	24540	110
7	Radiographer	4	8390	48
8	Other	-	-	-

Place of accident

Hospital ward	696	(71%)
At home	122	(13%)
Hospital (other than ward)	78	(8%)
Ambulance	50	(5%)
Community home	7	(1%)
Elsewhere	22	(2%)
	975	(100%)

Appendix 5

Aids Centres

Aids Centres offer a wide range of equipment for demonstration, treatment and assessment purposes and also serve as information resource centres. They are staffed by occupational therapists and physiotherapists. Funding for the centres varies, coming from health authorities, social services departments and voluntary organisations.

Aids Centre
Rehabilitation Engineering Unit
Musgrave Park Hospital
Stockman's Lane
Belfast BT9 7JB
Tel: Belfast 669501

Disabled Living Centre
84 Suffolk Street
Birmingham
Tel: Birmingham 643 0980

Aids Centre
Wales Council for the Disabled
Llys Ifor
Crescent Road
Caerphilly CF8 1XL
Mid Glamorgan CF8 1XL
Tel: Caerphilly 869224

Aids Centre
Astley Ainslie Hospital
Grange Loan
Edinburgh
Tel: Edinburgh 447 9200

Aids Centre
Medical Aids Department
British Red Cross Society
76 Clarendon Park Road
Leicester LE2 3AD
Tel: Leicester 700747

Merseyside Aids Centre
Youens Way
East Prescott Road
Liverpool 14
Tel: Liverpool 228 9221

Aids Centre
Newcastle Council for Disabled
MEA House, Ellison Place
Newcastle Upon Tyne
NE1 8EX
Tel:0632 323617

Aids Centre
87 The Wicker
Sheffield 3
Tel: Sheffield 737025

Aids Centre
Occupational Therapy Department
Southampton General Hospital
Shirley
Southampton SO9 4XY
Tel: Southampton 777222 Ext: 3122

Aids/Assessment Unit
Stepping Hill Hospital
Stockport
Cheshire
Tel: Stockport 483 1010 Ext. 207

Aids Centre
Strathclyde Council on Disability
Florence Street Clinic
26 Florence Street
Glasgow G46
Tel: Glasgow 429 2878

Aids Centre
Disabled Living Foundation
346 Kensington High Street
London W14 8NS
Tel: 01 602 2491

Travelling Exhibitions

Mobile Aids Centre
Scottish Council on disability
18/19 Claremont Crescent
Edinburgh EH7 4QD
Tel: Edinburgh 556 3882

Travelling Exhibition of Aids
RADAR
25 Mortimer Street
London W1N 8AB
Tel: 01 637 5400

Visiting Aids Centre
The Spastics Society
16 Fitzroy Square
London W1P 5HD
Tel: 01 387 9571

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